

# The readability and narrative tone of risk and risk management disclosures for South African listed companies

Risk and risk management disclosures

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## Abstract

**Purpose** – Risk information provides information to enable stakeholders to make informed decisions about a company. Corporate communications should be readable and unbiased so as not to hamper disclosure usefulness. This study assesses whether risk disclosures in the integrated reports are readable and unbiased.

**Design/methodology/approach** – The readability and narrative tone of South African listed companies' risk and risk management disclosures as disclosed in their integrated reports are analysed using automated software for the Top 40 JSE listed companies from 2015 to 2019.

**Findings** – The results show that risk and risk management disclosures are unreadable and lack any improvement in readability during the period. Additionally, these disclosures are biased toward narrative tones signalling communal and certainty.

**Originality/value** – The study adds to the literature on the readability of corporate reports, by focussing on the readability and narrative tone of risk and risk management disclosures during a period of increased scrutiny over the content of such disclosures. Also, by analysing risk disclosure and risk management disclosure separately, and by performing trend analysis to determine whether requirement changes related to content (specifically King IV) affect readability and narrative tones.

**Keywords** Readability, Risk, Disclosure, Narrative tone, Corporate governance, Risk management, King IV

**Paper type** Research paper

## 1. Introduction

The global financial crisis of 2008 and a spate of corporate failures led to an increased interest in risk and risk reporting (Bravo, 2017; Enslin *et al.*, 2015; Ntim *et al.*, 2013) due to underestimated risks and insufficient risk disclosure playing a significant role in these events (ICAEW, 2011). These developments led to the enhancement of corporate governance frameworks with a focus on improving the quality of risk reporting in integrated reports (Raemaekers *et al.*, 2016). Integrated reporting guidelines therefore now include an emphasis on the disclosure of risk and risk management practices (IoDSA, 2016), driven by increasing complexity in doing business, technological changes, and the globalisation of markets (Enslin *et al.*, 2015; Leopizzi *et al.*, 2020) and the need to include risk and risk management as integral parts of corporate governance (Buckby *et al.*, 2015).

The disclosure of risk and risk management information should be sufficient to enable stakeholders to perform their risk assessments (ICAEW, 2011) and facilitate informed decision-making (Hassan *et al.*, 2019). Therefore, risk and risk management disclosures must be presented in a way that makes them accessible to stakeholders. The effectiveness of the information contained in corporate annual reports depends on many factors, but the two complementary factors considered in this paper are (1) the readability of the information



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(Du Toit, 2017; Hassan *et al.*, 2019; Smith and Taffler, 1992; Tan *et al.*, 2014a), and (2) the presence of bias in narrative tone, for example, emphasising positive news while hiding negative news (Boudt and Thewissen, 2019; Hassan, 2019; Tsileponis *et al.*, 2020; Yang and Liu, 2017).

In South Africa, there is a particular focus on the readability and accessibility of integrated reporting disclosure (Roberts, 2021; Stone and Lodhia, 2019), *inter alia*, due to its diverse population. Stone and Lodhia (2019) argue that analysis of the readability of integrated reports in South Africa may provide different results to that of other jurisdictions due to differences in focus between the guidelines of the International Integrated Reporting Council and the South African Integrated Reporting guidelines. The South African guideline focuses more explicitly on a broader range of stakeholders and contains a greater emphasis on using clear and understandable language (Stone and Lodhia, 2019). King IV extends this emphasis on a stakeholder-inclusive approach. It is thus valuable to investigate whether the introduction of King IV had the desired effect on the accessibility of narrative disclosure.

Research on the readability of, and the level of tone bias in, corporate annual reports suggests that disclosures vary according to the performance of the company, with management's tendency to use a lack of reading ease and a specific tone to hide poor performance and emphasise good performance (Hassan *et al.*, 2019; Tsileponis *et al.*, 2020; Yang and Liu, 2017). Alternatively, Caglio *et al.* (2020) find that investors and analysts value more readable integrated reports, resulting in higher firm valuations. Elshandidy *et al.* (2022) call for a focus on the readability of risk-related disclosures in integrated reports to assist in evaluating the quality of risk disclosures. More comprehensive risk disclosure, as is now required after the global credit crisis and by integrated reporting guidelines, will not be meaningful unless it is presented in a more readable format (Elshandidy *et al.*, 2022; Gosselin *et al.*, 2021; Linsley and Lawrence, 2007) and without narrative bias.

The study firstly contributes to the body of knowledge on disclosure quality by focussing on the readability, as well as the narrative tone, of risk disclosure at a time of increased scrutiny of the disclosure of risk. Additionally, readability and narrative tone are investigated respectively for two distinctly separate components of risk disclosure, namely the disclosure of the risks faced on the one hand, and disclosure of the risk management policies and procedures on the other (Enslin *et al.*, 2015). Lastly, the possible effect on readability and narrative tone of the introduction of King IV, which adapts its view of risk and provides amended guidelines on risk disclosure, is examined. Thereby a better understanding of the effectiveness of risk reporting is provided to regulators and relevant stakeholders, especially in a stakeholder-inclusive integrated reporting context.

From here on a review of the literature on research related to readability and narrative analysis of annual reports, or parts thereof, is discussed. Followed by a description of the methodology followed, the presentation of results, and finally, the conclusions made.

## 2. Literature review

### 2.1 Theoretical perspective

This study builds on stakeholder theory. Yet, legitimacy theory is also relevant to suggest why management may use readability and narrative tone to influence stakeholder opinions. Stakeholder theory states that company managers are responsible for protecting the interests of company stakeholders. Stakeholders include employees, customers, suppliers, creditors, communities and the public (Hill and Jones, 1992). Legitimacy theory suggests that management operates under a social contract with stakeholders and would therefore attempt to legitimise their actions as managers in terms of this contract. According to this theory, the management of companies uses corporate business reporting as a tool to legitimise a company's image to its stakeholders, especially in terms of risk management (Ahmed Haji and Anifowose, 2017; Camilleri, 2018; Du Toit, 2017).

## 2.2 Integrated reporting and risk disclosure

According to King IV, companies are strongly encouraged to prepare their annual reports in the form of an integrated report, as described by the guidelines of the International Integrated Reporting Council ([IIRC, 2021](#)). The purpose of integrated reporting is to enhance value for investors and other stakeholders through high-quality and value-relevant information ([Du Toit et al., 2017; Zhou et al., 2017](#)) that enables investors to make investment decisions that create and sustain value in the short-, medium- and long-term ([Du Toit et al., 2017; Raemaekers et al., 2016](#)).

Research has assessed the usefulness of risk information reporting practices, as investors and other stakeholders rely on the risks reported as the main sources of risk-related information ([Elshandidy et al., 2018; Leopizzi et al., 2020; Maffei et al., 2014](#)). In line with stakeholder theory, there are supporting arguments that quality risk disclosures reduce information asymmetry by providing useful information to stakeholders ([Allini et al., 2016; Elshandidy et al., 2018; Miihkinen, 2013; Ntim et al., 2013](#)). Qualitative risk reporting increases the usefulness of quantitative risk information ([Sribunnak and Wong, 2006](#)).

[Berk and Loncarski \(2011\)](#) believe that exogenous regulations and requirements are needed to ensure firms manage and disclose risk sufficiently. Yet, [Elshandidy et al. \(2022\)](#) found that the introduction of mandatory integrated reporting requirements for listed companies in South Africa in 2011, negatively affected the volume of risk disclosure. The effect of regulation on risk disclosure remains relevant as [Ibrahim et al. \(2022\)](#) suggest that research should examine whether new and updated regulations have the desired effect of improving the quality of risk disclosure. Similarly, [Elshandidy et al. \(2022\)](#) suggest future research should be conducted into the *quality* of risk disclosure with a specific focus on readability, as they found that the *quantity* of risk disclosure did not significantly influence firm value.

Companies may have an incentive to disclose key risks in a less readable format as [Hahn et al. \(2021\)](#) found that non-professional investors divest from companies when they report that a negative event occurred. Management may also want to obfuscate risk disclosure which could be used by competitors and other stakeholders in a manner that erodes the company's competitive advantage ([Guthrie et al., 2020](#)). Yet, in line with legitimacy theory, management would want to present disclosure on the company's risk management processes (risk management disclosure) in the most understandable manner to create the impression that management is acting legitimately in terms of their social contract as agents. Therefore, the readability and use of narrative tone which influences impressions concerning disclosed risk and risk management process are discussed next.

## 2.3 The readability and narrative tone of disclosure

Although integrated reports ought to meet the needs of a multitude of users, including non-professionals ([Fisher et al., 2019; Riley and Taylor, 2014](#)) such as employees, creditors, suppliers and even the local community, it is still mostly aimed at informed investors and analysts ([Du Toit, 2017; Rensburg and Botha, 2014](#)). Yet, integrated reporting requirements in South Africa explicitly require JSE-listed companies to focus their reports on a wider group of stakeholders ([IIRC, 2021; IoDSA, 2016; Stone and Lodhia, 2019](#)). Accordingly, the CEO of South Africa's integrated reporting committee emphasises that a quality integrated report should be written in "plain language and get straight to the point" ([Roberts, 2021](#)).

The reading complexity of reports and inherent presentation bias may hinder non-professional readers from using non-financial information in corporate annual reports effectively ([Bayerlein and Davidson, 2012](#)). Reading complexity and bias contrasts with the objectives of clarity, conciseness and relevance advocated by integrated reporting and related risk and risk management disclosure requirements ([IIRC, 2021](#)).

### 3. Readability

Even though the South African Integrated Reporting guidelines more stringently emphasise the requirement for integrated report readability (Stone and Lodhia, 2019), no explicit requirements have been set for the readability of corporate disclosures in South Africa. Unlike the US Security and Exchange Commission (SEC) which continually promotes readable disclosures. The SEC guidelines include six principles, namely: everyday language; short sentences; active voice; the use of bullets and tables where possible; no double negatives; and no legal jargon or technical business terms (SEC, 1998).

Earlier studies on the readability of corporate reports focused on the reading difficulty of annual reports or sections thereof (Du Toit, 2017; Hasan, 2020; Melloni *et al.*, 2017; Stone and Lodhia, 2019; Thoms *et al.*, 2020) or the association between readability and financial performance (Ajina *et al.*, 2016; De Souza *et al.*, 2019; Hassan *et al.*, 2019; Lo *et al.*, 2017). All studies on the readability of disclosures revealed that the various elements of corporate annual reports are difficult to read. Research also suggests that disclosures in integrated reports are excessively long, repetitive and structurally hard to follow (Atkins and Maroun, 2015). Even though one can expect corporate reports to contain a level of complexity, researchers and specialists have been able to provide evidence that it is possible to write a complex narrative in a readable way (Linsley and Lawrence, 2007; SEC, 1998).

In their global study on the readability of complete integrated reports, Stone and Lodhia (2019) found risk *management* disclosure under the King III regime to be some of the most unreadable disclosures in integrated reports. King IV updated its risk disclosure guidance to recommend that companies identify and disclose the nature and extent of the risks they are willing to take, together with risk management arrangements, key risks of focus, how risk management was monitored and future areas of focus on risk (IoDSA, 2016). One of King IV's main objectives is that disclosure should be transparent and meaningful to stakeholders (IoDSA, 2016), which implicitly requires the use of readable language (Roberts, 2021).

One notable previous study that focused more specifically on the readability of risk disclosure, is that by Linsley and Lawrence (2007). They found the readability of risk disclosure in annual reports produced by UK companies for financial years around 2001 to be difficult to very difficult to read. Consequently, Linsley and Lawrence (2007) argue that requiring more extensive risk disclosure will not serve a purpose unless the readability is improved. Since their study, several professional bodies (ICAEW, 2011; IoDSA, 2016), as well as reporting guidelines (IIRC, 2021), have lobbied for more comprehensive and improved risk disclosure. However, if readability remains low, this disclosure will be of limited use (Linsley and Lawrence, 2007).

### 4. Narrative tone

The tone of disclosure refers to the use of a specific narrative style to convey a particular connotation or effect through word choices (Abdo and Fisher, 2007). The tone of the disclosure can promote deception in financial reporting that leads to credibility concerns, including that disclosure is used to facilitate managerial self-interest (Huang *et al.*, 2014) such as to legitimise their actions and appointment (in line with legitimacy theory). Stone and Lodhia (2019) argue that a defensive and qualified tone of writing may be excessively used in integrated reports.

Previous studies made use of content analysis or more advanced textual analysis to find patterns in narrative tone (Aerts and Yan, 2017; Allee and DeAngelis, 2015; Park *et al.*, 2020) for various types of disclosures such as separate corporate social responsibility or sustainability reports (Na *et al.*, 2020; Nakao *et al.*, 2019), profit announcements (Huang *et al.*, 2014), conference calls (Price *et al.*, 2012) and annual reports or sections thereof such as the CEO letter (Boudt and Thewissen, 2019; Fisher *et al.*, 2019; Greiner *et al.*, 2020; Park *et al.*, 2020; Shin and You, 2019; Yang *et al.*, 2018). Some studies related the narrative tone to firm performance and found distinct relationships between the tone of language, e.g. positive vs negative and firms' performance on various levels, e.g. market value, audit costs, profitability,

or financial distress (Arslan-Ayaydin *et al.*, 2016; Greiner *et al.*, 2020; Huang *et al.*, 2014; Na *et al.*, 2020; Nakao *et al.*, 2019; Tan *et al.*, 2014b; Yang *et al.*, 2018).

Much of the literature on narrative tone concentrated on whether a narrative is positive or negative (Allee and DeAngelis, 2015; Boudt and Thewissen, 2019; Huang *et al.*, 2014; Tan *et al.*, 2014b). However, Hart and Carroll (2013) find the tone to be more complex and include other features such as activity, commonality, realism and certainty. Caglio *et al.* (2020) analysed optimism and certainty tones in integrated reports and found that analyst forecasts are less dispersed when the text displays attributes of optimism and certainty. They argue that this finding suggests that these readers may be influenced by tone-related impression management strategies.

Based on the literature discussed this study aims to answer three research questions:

- RQ1.* What is the readability, respectively, of risk and risk management disclosures within the context of increased scrutiny of such disclosures?
- RQ2.* Do firms make use of specific narrative tones (bias) in risk and risk management disclosures, respectively?
- RQ3.* How did readability and narrative tone (bias) change over time, with a specific focus on the effect of the introduction of King IV?

## 5. Research method

The risk and risk management disclosures examined relate to voluntary disclosure provided in narrative format and do not relate to financial reporting standards. Like the approach by Enslin *et al.* (2015), the current study analyses risk disclosures and risk management disclosures, separately. The listing and discussion of risks, and the mitigation thereof, are considered risk disclosure (*hereafter referred to as RD*). Risk management disclosure (*hereafter referred to as RMD*) refers to the disclosure of the risk management processes. RD is focused on informing stakeholders of the risks (and opportunities) facing the business when attempting to achieve its strategic objectives (more stakeholder theory-oriented), while RMD is focused on showcasing processes and policies employed by management to successfully manage risks in general (more legitimacy theory-oriented).

Stone and Lodhia (2019) contend that longitudinal studies on integrated reporting-related practice are under-researched at present. Consequently, data were collected for this study for the financial year from 2015 to 2019, including the year King IV was introduced, namely 2017. A non-random, purposive sample was selected from non-financial firms listed on the Johannesburg Stock Exchange FTSE/JSE Top 40 Index (Enslin *et al.*, 2015; Marx and Mohammadali-Haji, 2014; Viljoen *et al.*, 2016). The FTSE/JSE Top 40 Index was selected as it represents approximately 80% of the total investable market capitalisation of all companies listed on the JSE and should be representative of current best practices (Enslin *et al.*, 2015).

Companies in the financial sector were excluded as they are subject to different regulations (Ajina *et al.*, 2016; Linsley and Lawrence, 2007) and their uniqueness could lead to biased results. The remaining non-financial companies were kept constant from 2015 to 2019, resulting in a sample of 29 companies. Not all companies had both RD and RMD for all years under review. The final sample consisted of 115 firm years for RD and 110 firm years for RMD.

The relevant integrated reports were downloaded from the IRESS database or company websites. The reports were scrutinised to determine where RD and RMD were made because King IV is not specific on the location of these disclosures in the integrated report. The RD and RMD sections of these reports were manually extracted and saved, per company and per year. As this study focuses on the RD and RMD sections of the integrated reports, other risk-related discussions that may have been discussed outside of these sections were not considered for analysis.

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Readability tests were performed using Readability Studio 2019 software package. Stone and Lodhia (2019) confirmed that software-produced readability scores are reliable and standard practice when performing textual analysis. The developers of Readability Studio 2019 indicate that the Flesch Reading Ease Formula, the Flesch-Kincaid, and the Gunning Fog Index are the most appropriate measures to calculate the readability scores of professional materials. These formulas have been endorsed by leading scholars in accounting-related readability studies (Du Toit, 2017; Hassan *et al.*, 2019; Linsley and Lawrence, 2007; Loughran and McDonald, 2014; Stone and Lodhia, 2019). Each measure is briefly explained in the discussion which follows.

$$\text{Flesch - Kincaid} = (0.39 \times \text{average sentence length}) + (11.8 \times \text{average syllables per word}) - 15.59$$

The Flesch-Kincaid generates a score that indicates the school grade level that a reader must be to be able to read and understand the text.

$$\text{Flesch Reading Ease} = 206.835 - 0.846 (\text{word length}/\text{syllables}) - 1.015 (\text{sentence length})$$

The higher the Flesch Reading Ease, the more readable the text, with readability scores of lower than 60 being perceived as difficult to read.

$$\text{Gunning Fog Index} = 0.4 (\text{percentage of complex words} + \text{average number of words per sentence})$$

With complex words being any words with three or more syllables, the Gunning Fog Index estimates the number of formal years of education that a reader requires to be able to read the text.

The readability formulae were supplemented with the number of passive voice sentences, as well as so-called wordy items. Asay *et al.* (2018) found that the passive voice is often used to hide negative news, while Melloni *et al.* (2017) found that firms with weak performance tend to have longer disclosures. These factors are thus also considered to be indicators of the difficulty of a piece of text.

Readability formulae provide an objective, reliable and valid means to predict readability, in addition to being inexpensive, quick and simple (Du Toit, 2017). Yet, some argue that these measures cannot fully capture the readability of technical material for an advanced target audience (Smith and Taffler, 1992). Nonetheless, these measures continue to be widely used in readability studies (Du Toit, 2017; Hassan *et al.*, 2019; Li, 2008; Linsley and Lawrence, 2007; Stone and Lodhia, 2019) providing a useful assessment of estimated readability.

Like previous studies, Diction 7.1.3. is used in the analysis of the narrative tone that is used in the RD and RMD of the sample of companies (Fisher *et al.*, 2019; Greiner *et al.*, 2020; Loughran and McDonald, 2015; Nakao *et al.*, 2019; Park *et al.*, 2020; Rim *et al.*, 2019). Diction measures narrative tone in five main categories, as illustrated in Table 1. A score for Certainty, for example, is measured based on how many times words relating to Tenacity, Levelling, Collectives and Insistence appear in a text, minus the number of times words relating to Numerical Terms, Ambivalence, Self-Reference and Variety appear. A more detailed table with information on each of the word categories is available on the Diction website (<http://dictionsoftware.com>).

Descriptive statistical measures such as measures of central tendency and measures of variability were used as basic measures to analyse the readability and narrative tone data. The analyses also investigate how readability and narrative tone changed over time. Since the data contains uneven samples and unequal variances, the Friedman test (as a non-parametric alternative to the one-way repeated measures ANOVA) is used for these analyses.

Master variable	Definition	Formula	Risk and risk management disclosures
Certainty	Language indicating resoluteness, inflexibility, and completeness, and a tendency to speak ex-cathedra	[Tenacity + Levelling + Collectives + Insistence] – [Numerical Terms + Ambivalence + Self Reference + Variety]	
Optimism	Language endorsing some person, group, concept, or event or highlighting their positive entailments	[Praise + Satisfaction + Inspiration] – [Blame + Hardship + Denial]	
Activity	Language featuring movement, change, the implementation of ideas, and the avoidance of inertia	[Aggression + Accomplishment + Communication + Motion] – [Cognition + Passivity + Embellishment]	
Realism	Language describing tangible, immediate, recognisable matters that affect people's everyday lives	[Familiarity + Spatial Terms + Temporal Terms + Present Concern + Human Interest + Concreteness] – [Past Concern + Complexity]	
Commonality	Language highlighting the agreed-upon values of a group and rejecting idiosyncratic modes of engagement	[Centrality + Cooperation + Rapport] – [Diversity + Exclusion + Liberation]	

**Source(s):** Hart (2000), Hart and Carroll (2013)

**Table 1.**  
Diction measures of narrative tone

## 6. Results

Descriptive statistics are presented first, followed by a more in-depth analysis to verify the statistical significance of the results. Firstly, to illustrate what these disclosures look like, one can investigate the length of the disclosures as measured by the number of words.

Table 2 presents the average length of the different types of disclosure. An inspection of median values shows that the RD (median = 1 598) tends to be longer than the RMD (median = 505). The large ranges and standard deviations in both types of disclosures are a preliminary indication of the difficulty that stakeholders face when attempting to compare the risk profiles of companies. The trend of both these types of disclosures, as illustrated in Figure 1, is upward, with disclosure becoming longer in terms of the number of words over time. There is a distinct increase in the length of RD after the introduction of King IV in 2017, suggesting that King IV did result in risk disclosure being updated to some extent. However, this was followed by a decrease in RD reporting in 2018 and an increase again in 2019. Therefore, although some variation in RD is present over the period, the general trend reflects an increase in length.

The result of a Friedman test of the total number of words indicates that the change in length of both RD and RMD is not statistically significant. However, the increase in length of the RD is notably closer to significance  $\chi^2(4, n = 19) = 7.874, p = 0.096$ , than that of the RMD  $\chi^2(4, n = 18) = 1.904, p = 0.753$ . For ease of reference, Table 3 presents a summary of all the Friedman test results for all the variables discussed forthwith. While the change in length may indicate attention was given to updating risk disclosure, the insignificant change in length should not be viewed as negative as an increase in the quantity of risk disclosure does not indicate an increase in the quality thereof (Elshandidy *et al.*, 2022).

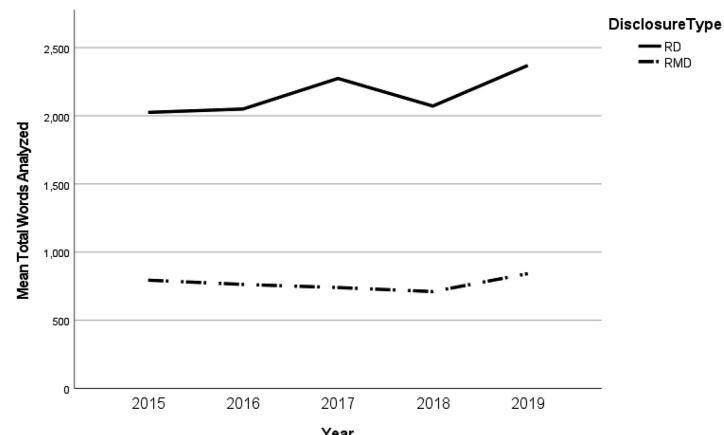
The results of the descriptive statistics of the risk-related disclosures in integrated reports are presented for RD and RMD, firstly for readability and secondly for narrative analysis in [Tables 4 and 5](#) with a discussion after each.

### 6.1 Readability analysis results

The three readability measures indicate that both RD and RMD are difficult to read. The results from the Flesch-Kincaid readability measure range from 11.10 to 18.30, with a mode of 13.80 (mode being the score that occurred most often) for RD and from 9.20 to 19.00 with a mode of 13.90 for RMD. RD and RMD of firms listed on the JSE tend to be difficult to read and are only appropriate for English readers with at least an average of 14 years of education. The Flesch Reading Ease results for RD range from 1.00 to 35.00, with a mode of 21.00, and for RMD range from 6.00 to 44.00 with a mode of 25.00. The lower the Flesch Reading Ease score, the more difficult the text is perceived to be ([Flesch, 1979](#)). The zero to 30 standard range for the Flesch Reading Ease is indicative of Very Difficult material, therefore only appropriate for individuals with a postgraduate qualification (e.g. scientific material). [Stone and Lodhia \(2019\)](#) found mean Flesch Reading Ease scores of between 31.5 and 34.2 for full integrated reports for the periods between 2011 and 2015. The current study's lower mean of 22.02 for RD and 26.20 for RMD support their finding that RD and RMD are more difficult to read than most of the rest of the integrated reports. When comparing findings by [Linsley and Lawrence \(2007\)](#) of a mean Flesch reading ease rating of 30.50 (range 21.72–36.53) risk disclosure by top South African firms from 2015 to 2019 is lower than that of top UK companies during 2001. Accordingly, despite the calls for improvement of risk disclosure from various circles since 2001, the readability of the disclosure negatively affects any content improvement.

	Mean	Median	Mode	SD	Min	Max
<i>Panel A: RD (n = 115)</i>						
Total words	2,166	1,598	202	1,748	202	11,103
<i>Panel B: RMD (n = 110)</i>						
Total words	773	505	107	684	59	3,464
<b>Source(s):</b> Authors' own work						

**Table 2.**  
Risk-related disclosure length



**Figure 1.**  
Trend lines of disclosure length over time

**Source(s):** Authors' own work

Variable	Disclosure	Chi-squared	DF	p-value
Length	RD	7.874	4	0.096
	RMD	1.904	4	0.753
Flesch-Kincaid	RD	0.628	4	0.960
	RMD	0.683	4	0.953
Flesch reading ease	RD	15.117	4	0.004
	RMD	3.742	4	0.442
Gunning fog	RD	3.261	4	0.515
	RMD	1.325	4	0.857
Passive voice sentences	RD	1.204	4	0.877
	RMD	1.681	4	0.794
Activity	RD	4.084	4	0.395
	RMD	2.678	4	0.613
Optimism	RD	7.916	4	0.095
	RMD	5.713	4	0.222
Certainty	RD	4.675	4	0.322
	RMD	5.457	4	0.244
Realism	RD	8.728	4	0.068
	RMD	0.760	4	0.944
Commonality	RD	11.008	4	0.026
	RMD	4.712	4	0.318

Risk and risk management disclosures

**Table 3.**  
Summary of all Friedman test results

**Source(s):** Authors' own work

	Mean	Median	Mode	SD	Min	Max
<i>Panel A: RD (n = 115)</i>						
Flesch-Kincaid	14.00	13.80	13.80	1.28	11.10	18.30
Flesch reading ease	22.02	22.00	21.00	6.55	1.00	35.00
Gunning fog	16.23	16.40	19.00	1.63	12.10	19.00
Passive voice	16.07	12.00	4.00	13.24	1.00	65.00
<i>Panel B: RMD (n = 110)</i>						
Flesch-Kincaid	14.21	14.20	13.90	1.35	9.20	19.00
Flesch reading ease	26.20	26.00	25.00	6.98	6.00	44.00
Gunning fog	17.23	17.40	19.00	1.44	12.90	19.00
Passive voice	10.51	8.00	5.00	9.70	2.00	51.00

**Note(s):** The formulae for calculating these measures are available in the methods section

**Source(s):** Authors' own work

**Table 4.**  
Risk-related disclosures descriptive statistics for readability measures

According to the Gunning Fog Index, short sentences in Plain English achieve a better score than long sentences in complicated language. The Gunning Fog readability measure has a range of 12.10–19.00 and a mode of 19.00 for RD and a range of 12.90–19.00 and a mode of 19.00 for RMD. This again indicates that the RD and RMD are too hard to read for most people. The means of 16.23 and 17.23 for RD and RMD respectively are close to the results found by [Stone and Lodhia \(2019\)](#) of between 15.6 and 16.2. Yet, still indicate lower readability which corroborates the present study's findings based on the Flesch-related analyses.

Friedman's tests of the changes in readability measures over time indicate that most of the readability measures did not change significantly over the period. The only statistically significant result was for the Flesch Reading Ease score of the RD, which showed a significant decline in readability over time with  $\chi^2(4, n = 19) = 15.117, p = 0.004$ . Accordingly, the trend of readability not improving over time ([Stone and Lodhia, 2019](#)) is also applicable to RD and RMD disclosure in South Africa.

	Mean	Median	Mode	SD	Min	Max
<i>Panel A: RD (n = 115)</i>						
Activity	49.03	49.27	47.00	4.05	15.70	55.82
Certainty	49.85	49.74	49.00	2.20	44.73	55.84
Commonality	50.40	50.61	48.00	3.42	38.06	72.11
Optimism	49.34	49.25	47.00	4.35	35.98	63.38
Realism	47.81	47.36	44.00	3.71	40.56	75.15
<i>Panel B: RMD (n = 110)</i>						
Activity	48.84	48.62	46.62	3.17	41.98	64.57
Certainty	53.26	53.73	49.00	2.48	48.10	59.31
Commonality	52.37	51.72	51.65	3.79	33.53	68.52
Optimism	38.33	38.43	34.06	5.50	23.63	54.66
Realism	46.59	46.42	46.23	2.54	36.51	53.77

**Table 5.**  
RD and RMD  
descriptive statistics  
for narrative analysis

**Note(s):** The formulae for calculating these measures are available in the methods section  
**Source(s):** Authors' own work

It is important to note that readability tests are ideal as initial tests of readability. The test does not, for example, consider the multi-syllabic words that are necessary for corporate reports and cannot be replaced with simpler terms. An example of text that is considered unreadable by readability software is the following:

[Company X] has an embedded enterprise risk model, which replicates that of [the holding company], to identify and assess existing and emerging risk and associated opportunities where effective risk management can be turned into a competitive advantage. Any risk taken is considered within the risk appetite and tolerance levels, which are updated on an annual basis and approved by the [the company's] risk committee. Emerging risks are identified where the extent and nature of the risk or opportunity and its potential impact on the business are uncertain.

One can observe in the example that the sentences are exceedingly long and that long unnecessarily difficult words are used. The RD and RMD contain some wordy items that can potentially be replaced by simpler words or phrases. Table 6 shows examples of so-called wordy items that were highlighted by the software as being unnecessarily difficult. These items can potentially be written in simpler terms without infringing on the meaning of the text or 'dumbing it down.' These examples are limited in number and scope. However, in a lengthy document consistent use of unnecessary or difficult words where simpler ones are available can result in an overall unreadable text.

The disclosures also contain several passive-voice sentences, which in their essence, are harder to follow than sentences written in the active voice. The use of passive voice sentences is not necessarily a means to manipulate text, but it does affect readability (Li, 2008; SEC, 1998). The increase in the number of passive voice sentences was not statistically significant for RD or RMD. However, it is interesting to note that RD makes use of more wordy items and passive sentences than RMD. The higher level of usage of active voice in RMD could form the impression that the company is actively managing risk. For example, "our Board of Directors oversees the risk management process at XYZ" (active) instead of "the risk management process is overseen by the Board of Directors" (passive). A higher level of use of passive voice in the RD could create the impression that the company is passively affected by external factors. While this is not necessarily a severe problem, it is an indication of why it is necessary to also investigate the narrative tone of RD and RMD. Consequently, the section which follows examines the possible use of narrative tones to influence readers' impressions.

Wordy items	Suggestions	Risk and risk management disclosures
a number of	a few	
Ability	Skill	
additional	added, extra	
all of	All	
anticipated	expected, awaited	
appropriate	proper (adj.) set aside (verb)	
as well as	and also	
at present	now, today	
component	part	
consequences	results	
continue to be	remain	
contribute	give, help	
desired	wished	
develop	make, grow	
encourage	urge	
Ensure	make sure	
establish	set up, prove	
evaluates	checks, rates	
have an impact on	affect, influence	
identified	named, found	
immediately	at once, right away, right now	
implement	carry out, do	
in operation	operative, active, working	
in order to	to, for	
in relation to	about, for, on; about, in, on, to, toward, with	
in the process of	while	
<b>Source(s):</b> Authors' own work		

**Table 6.**  
Examples of  
“wordy items”

## 6.2 Narrative analysis results

Dictio analyses text in terms of five main categories, namely *Activity*, *Certainty*, *Commonality*, *Optimism* and *Realism*. The descriptive statistics for the main narrative categories are presented in Table 5. “A detailed table containing information for all the sub-categories is available online at <https://doi.org/10.25403/UPresearchdata.24115440>.”

A summary of the main categories of narrative tone indicates that the RD and RMD make extensive use of words relating to *Commonality* and *Certainty*, if mean scores are considered. These are discussed first, with the other narrative tone types following thereafter.

*Commonality* refers to language highlighting the values of a group. The most prominent word category under Commonality was *Cooperation*. *Cooperation* refers to interactions among people. The effect of *Cooperation* words was more pronounced for RMD ( $m = 12.32$ ;  $SD = 5.88$ ) than for RD ( $m = 10.72$ ;  $SD = 4.02$ ). This is sensible, as risk management should be a combined effort and not only a function allocated to one individual or group (Enslin et al., 2015).

*Certainty* refers to language that is indicative of purpose, inflexibility, completeness and a tendency to speak with authority. Being the highest item for RMD, this indicates that the companies communicate their risk management to be resolute and firm. This is lesser the case for RD, which is by nature more dynamic and deals with risks that occurs within a specific period. Under the Certainty category for both RD and RMD, the results show the highest levels for words relating to *Insistence* (RD:  $m = 122.29$ ;  $SD = 84.57$ ; and RMD:  $m = 152.11$ ;  $SD = 78.53$ ). *Insistence* refers to words indicating a limited, ordered world. The effect of these word choices for Certainty is more pronounced for RMD than for RD. This may create the impression that risks are limited and managed in a well-ordered manner by the company.

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*Activity* refers to language that denotes movement, change and the implementation of ideas. This makes sense for RMD and RD, as risks need to be actively managed and dealt with when they occur. In this category, the most prominent subcategory is words relating to *Accomplishment*. *Accomplishment* refers to completing tasks, organised human behaviour, business-related terms, business expansion and general functionality. The *Accomplishment* category is significantly higher for RD ( $m = 33.34$ ;  $SD = 9.17$ ) than for RMD ( $m = 23.93$ ;  $SD = 7.31$ ), which may indicate a slight overemphasis on the success of dealing with risks that occurred in the company or its environment.

The *Optimism* category refers to language that endorses a person, group, concept, or event or that highlights their positive attributes. The results for Optimism are low and vary widely. Yet, RD makes use of more optimistic words than RMD. This can be to put stakeholders at ease regarding the extent of risks that the companies faced and how the risks were dealt with. For Optimism, the *Hardship* category is most prominent, especially for RMD (RMD:  $m = 31.50$ ;  $SD = 11.00$ , vs RD:  $m = 9.54$ ;  $SD = 6.13$ ). *Hardship* refers to words indicating natural disasters, hostile actions, blameworthy human behaviour, negative political outcomes and human fears. These words make sense in terms of risk-related disclosures, which tend to be more focused on negative news. However, the higher value for *Hardship* in RMD is surprising as one would expect more of that type of disclosure in the RD where the actual risks are discussed. This gives the impression that companies are facing hardship when developing risk management procedures, but the hardship that the actual risks can cause is downplayed.

*Realism* relates to language describing tangible, immediate, recognisable matters that affect people every day. This is an appropriate use of language for RD and RMD as these disclosures discuss things that affect the company in a significant way. The most prominent category of words under Realism was *Familiarity* (RD:  $m = 100.44$ ;  $SD = 15.23$ ; and RMD:  $m = 114.06$ ;  $SD = 17.49$ ). *Familiarity* refers to the use of the most familiar words in English, such as common prepositions, demonstrative pronouns and interrogative pronouns, as well as various particles, conjunctions and connectives. These can be expected in most disclosures and create a sense of familiarity. Interesting to note is that the text readability is poor, which may be due to the use of wordy (unnecessary) items even though the words are familiar.

Friedman tests of the changes, over time, in the five main narrative tones categories were all statistically insignificant, except the use of *Commonality* words in the RD  $\chi^2(4, n = 19) = 11.008, p = 0.026$ .

The narrative tone results vary from the results of previous research. Most previous studies investigating narrative tone using Diction found that the tone of portions from corporate reports is written using words related to *Optimism* and *Commonality* (Du Toit and Delport, 2021; Fisher *et al.*, 2020; Greiner *et al.*, 2020; Park *et al.*, 2020). These studies investigated other parts of corporate reports, not specifically risk disclosure. There is thus a distinct difference in the narrative tone of RD and RMD in that it is written using words of *Certainty* and *Commonality*. Emphasis is placed on being resolute, inflexible and authoritative when it comes to risk and risk management.

The extensive use of words relating to *Certainty* and *Commonality* (especially the significant increase in *Commonality* words in the RD) can be an attempt to legitimise actions and create a certain impression of the company. For example, *Commonality* refers to language that emphasises the importance of core values and may be a means to show stakeholders that the company follows sound principles and values in terms of risk and risk management to benefit interested parties. An example of a section written using *Commonality* words is

Effective risk management is fundamental to the business activities of [the Group]. By identifying and proactively addressing risks and opportunities, the group aims to generate sustained value for stakeholders while protecting its business operations, reputation, and the well-being of its employees.

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*Certainty* refers to language that shows the company is resolute, inflexible and complete, and tends to speak with authority. This also creates an impression that management is confident (maybe excessively so) that its risk management processes are of a high standard. An example of a piece written with *Certainty* is

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The Board is satisfied that the Group has applied all significant governance principles and is compliant with all significant Listings Requirements of the JSE. The Group has not breached any regulatory requirements and has not failed any statutory obligation. A review of the application of King III is provided below. Compliance with statutory and legislative requirements is managed through an integrated compliance framework.

These narrative tones of commonality and certainty are present in both RD and RMD and suggest that companies tend to write disclosures in a way that subtly manipulates readers' impressions of the company and its risk and risk management position. Exceptionally high scores for *Insistence* (as a subcategory of *Certainty*) and *Familiarity* (as a subcategory of *Realism*) indicate that these are the most prevalent subcategories of narrative tones present in both RD and RMD. *Insistence* refers to the use of words that create an impression of control, which is essential in terms of risk and risk management disclosure, to give readers the impression that the company has everything under control. *Familiarity* words are an attempt to, through language, make the company more relatable to stakeholders, even though familiarity wording tends to make the text 'wordy' and hard to read.

## 7. Discussion and conclusions

Risk and risk management reporting has grown in importance due to recent financial crises that led to stakeholders questioning the ability of companies to envisage and respond to risks (Allini *et al.*, 2016; Bravo, 2017; Leopizzi *et al.*, 2020). The purpose of this study was to assess the integrated reports of South African listed companies to determine the levels of readability and the extent of narrative tone use in risk disclosures (RD) and risk management disclosures (RMD).

Various readability formulae indicated that both RD and RMD are exceptionally difficult to read, which theoretically places them beyond the reading ability of 88% of South Africa's population. Contrary to Stone and Lodhia (2019) who found examples of integrated reports which had better readability scores, the ranges of readability for RD and RMD were limited to scores indicating a difficult-to-read text.

Disclosure of key risks may affect a company negatively if investors disinvest due to disclosure of negative events and where such disclosure may be used to erode competitive advantage (Guthrie *et al.*, 2020; Hahn *et al.*, 2021). Consequently, management has incentives to obscure disclosure of risks faced through more difficult-to-read RD disclosure to prevent such negative consequences. Yet, it is doubtful whether RMD disclosure, which should serve to legitimise management's actions as agents (as per legitimacy theory), would deliberately be presented with difficult-to-read text. It could therefore be argued that RMD may be more difficult to convert to a more easily readable format than the rest of the integrated report. The same may then be true for RD.

While this study finds that risk disclosure is very difficult to read, it does not provide a clear indication of whether this is due to deliberate actions by management to obfuscate information. However, the findings do suggest that more should be done by regulators to require improvement in the readability of disclosure and to assist report preparers in obtaining the skill to write in a more reader-friendly manner.

Narrative analysis of RD and RMD indicates that specific narrative tones are implemented, especially in terms of *Commonality* (the importance of core values) and *Certainty* (creating the impression that the company is resolute, inflexible and complete,

and tends to speak with authority). There is thus bias in the way RD and RMD are reported. Certainty (Caglio *et al.*, 2020) and Commonality (Du Toit and Delport, 2021; Fisher *et al.*, 2020; Greiner *et al.*, 2020; Park *et al.*, 2020) tones may influence stakeholders' opinions of the company and its risk management approach. The use of specific tones may be deliberate or subconscious efforts to manage readers' impressions regarding the risk faced by and risk management processes of, the company. This creates the impression that management may be more focused on legitimising their actions (legitimacy theory) than protecting stakeholders' interest (stakeholder theory).

A comparison of readability and narrative tone results for the period between 2015 and 2019 indicates that readability remained poor, and the use of specific narrative tones remained prevalent over time. The implementation of an updated corporate governance code in the form of King IV did not improve the readability of RD and RMD, and disclosures remain biased towards emphasising core values and words that display inherent certainty. This is in line with Stone and Lodhia (2019) who argue that simply updating disclosure requirements does not help to improve the readability of the integrated reports which are updated to adhere to these new requirements. While Ibrahim *et al.* (2022) argue for continued research on whether new and updated regulations and guidelines improve risk disclosure, the present study suggests that future research should closely monitor that such improvements in disclosure do not sacrifice the readability and clarity thereof.

Like Berk and Lonicarski (2011) and Ntim *et al.* (2013), it is recommended that regulators enhance risk reporting by encouraging the disclosure of risk information that is more accurate, reliable and relevant to stakeholders. Risk reporting should set out to inform stakeholders in an unbiased way how management attempts to protect stakeholders' interests, in line with stakeholder theory. Regulators should note that simply increasing or amending the requirements for risk disclosures will not be beneficial without addressing the readability and tone of such disclosures.

The results and conclusions of the study should be considered bearing in mind some limitations. The study sample is small. Future research should consider not limiting the sample to the JSE Top 40 Index. With larger samples, results could be assessed at an industry level. This could also provide ideas on which industries, if any, are the main contributors to the results of readability. The study is limited to the South African context. Future studies should compare RD and RMD disclosures of listed companies with those from other jurisdictions (Elshandidy *et al.*, 2022). This comparative analysis could provide corporate governance setters with insight into non-financial risk reporting.

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